

Claim Listing

This listing of claims will replace all prior versions, and listings, of claims in the application:

1- 42. (Cancelled).

43. (new) A system, comprising:

(a) a media independent interface;

(b) auto-negotiation circuitry to couple to multiple data lanes of a printed circuit board having conductive traces providing the multiple data lanes, each of the multiple data lanes to carry respective encoded symbol values; and

(c) interposed between and coupled to the media independent interface and the auto-negotiation circuitry, multiple sets of PHY components, each set comprising:

(1) a physical coding section (PCS); and

(2) a physical medium attachment (PMA) section; coupled to the PCS;

wherein the auto-negotiation circuitry comprises logic configured to:

send transmission capabilities encoded as bits in a link base code word to a partner device coupled to the printed circuit board, the transmission capabilities including at least one 1-Gigabit/second capability, at least one 10-Gigabit/second capability, and at least one four-data lane communication capability over the printed circuit board wherein the auto-negotiation circuitry sends transmission capabilities over a single of the four-data lanes;

receive transmission capabilities encoded as bits in a link base code word from the partner device;

select a highest common denominator transmission capability according to a priority scheme of the transmission capabilities sent to the partner device and the transmission capabilities received from the partner device; and

configure transmit and receive functions of the multiple sets of PHY components based on the selected highest common denominator transmission capability.

44. (new) The system of claim 43, further comprising:

a first media access control (MAC) device coupled to the media independent interface; and

a packet classification ASIC (Application Specific Integrated Circuit).

45. (new) The system of claim 43, further comprising circuitry for a parallel detect function to enable communication with a device that does not support auto-negotiation.

46. (new) The system of claim 43, wherein the system comprises a line card, the line card having an input port to receive network data from a remote network node not coupled to the printed circuit board.

47. (new) The system of claim 46, wherein the input port comprises an input port for an optical data link.